PUROTAP®
by ELYSATOR™

PUROTAP® expert

At long last, power when filling heating systems – with hyper filtration

Mobile full desalination with a filter membrane

20 litres per minute

1200 litres per hour

The powerful mobile alternative to resin based demineralisation. PUROTAP® expert operates with hyper filtration – an advanced process that is especially suited to filling large systems. The unit's high throughput and productive capacity in relation to its size is revolutionary. The device produces an output of 20 litres per minute.

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engineering water

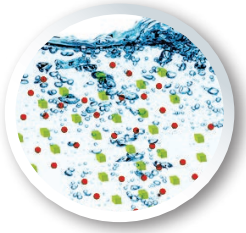
Tap water ≠ technical water

Water circuits need demineralised water

Water-filled systems, such as heating and cooling systems, power plants, industrial installations and ship engines, place high demands on water quality. Tap water contains minerals, salts and gases that lead to deposits of sludge, limescale and rust in water-filled systems. Tap water must be filtered until it is suitable for the desired technological application. In terms of its chemical and physical properties, technical water must comply with the technical standards established by manufacturers, engineers and professional associations.

The main benefits of demineralised water

- greater energy efficiency
- reduced maintenance costs
- allows for guarantee claims and consumer protection



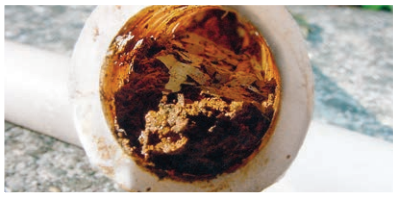
Tap water:
with minerals and gases

Technical, pure water
after hyper filtration by
PUROTAP® expert

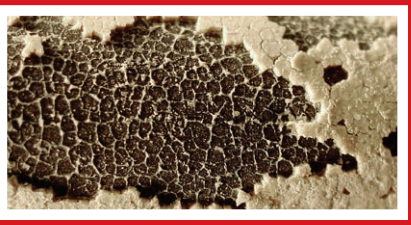
Standards for heating water

According to current VDI and SWKI standards, fill water for heating systems should be pretreated to prevent the formation of mineral deposits. Practical experience has shown that even water with a low hardness level can produce limescale deposits that may damage modern appliances such as wall mounted gas boilers, heat pumps, and solar thermal systems. The larger the system's water content (e.g. cylinders), the more limescale introduced by the fill water. Water with a hardness of 17 °dH (30 °fH) produces 300 grams of limescale for each cubic metre of water. For a system in a single family home with 350 litres of water, this results in approx. 100 grams, more than enough to disable a modern high performance heat exchanger.

Potential consequences of non-demineralised tap water in water-filled systems:



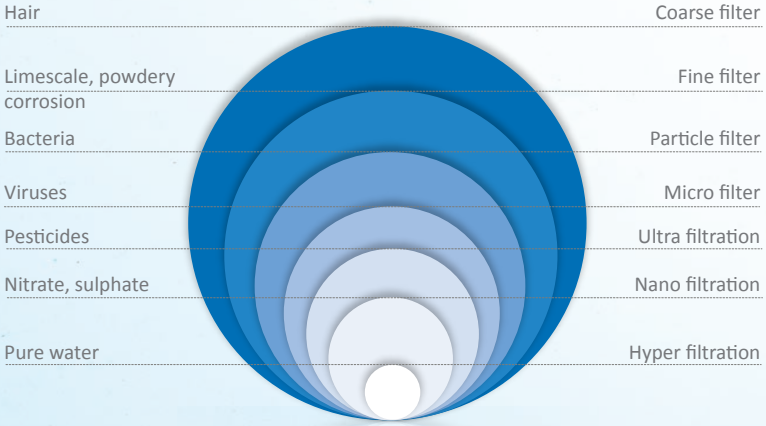
Sludge



Scaling

Pitting, corrosion

Hyper filtration filters the smallest nanoparticles from the water. For pure H_2O



PUROTAP® expert

H_2O through hyper filtration: fast - pure - ecological

PUROTAP® expert provides a quick, ecological and cost-effective way to demineralise tap water. Metering and control devices are already incorporated. It also works with or without electricity.

Main applications

- Large heating or cooling systems with a top-up demand > 1000 litres per year
- Water-filled industrial installations and power plants
- Water for cleaning purposes (windows, solar panels, cars, etc.)

Benefits

- Very high throughput and productive capacity: 20 litres per minute
- Ecologically sound: no chemical additives required
- Works with or without a power supply
- Measurable: integral meters
- Straightforward connection, easy operation
- Very low operating costs
- No resin consumption

Maintenance

PUROTAP® expert requires very little maintenance. Depending on turbidity content, on average the filter membrane only needs to be replaced once every 100,000 litres, which substantially reduces operating costs compared to ion exchange systems. Only clean tap water may be used. All PUROTAP® expert components can operate mechanically without electricity. Technical design innovations have eliminated the need for failure-prone controllers and regulating valves.

Meter

The integrated meter is battery-operated. It measures the flow rate in litres per minute, the total volume in litres and the concentration of dissolved minerals (electrical conductivity), either in microsiemens or TDS. In addition, a limit can be set for the maximum tolerable concentration of minerals in the demineralised water. The limits and flow rate total can be reset.

Easy and secure compliance with the following standards:
SWKI BT 102-01, VDI 2035 folio 2, ÖNORM H 5195-1

PUROTAP® expert operates with hyper filtration – an advanced process. With its integrated high pressure pump, PUROTAP® expert achieves a throughput of 20 litres per minute / 1200 litres per hour. PUROTAP® expert pushes raw water at pressures of up to 18 bar through a filter membrane with a gauge width of less than one nanometre – this equates to one millionth of a millimetre. This holds back all dissolved minerals and salts and only pure water molecules pass through the membrane. The hyper filtered water is particularly suitable for technical applications since dissolved minerals, heavy metals and pesticides, as well as bacteria and organic matter, are removed from the water. An optimised and fully automatic flushing process keeps the filter membrane clean whilst in use.

- ☑ **without resin consumption**
- ☑ **easy implementation:** plug & play
- ☑ **fast:** 20 litres per minute; up to 30 m^3 per day
- ☑ lowest price per litre:
  up to 10 times more cost efficient than resin
- ☑ **highly productive:** productive capacity
  up to 100,000 litres

Specifications and dimensions

Performance data

Minimum inlet pipe flow rate	30 l/min
Max. inlet pipe pressure	2 - 9 bar
Pump performance	8 bar
Max. operating pressure with pump	18 bar
Desalination capacity without pump	up to 10 l/min
Desalination capacity with pump	up to 20 l/min
depending on raw water hardness level and pressure conditions	
Water temperature	max. 60 °C
Pump connection	230 V / 16 A
Filter membrane service life:	approx. 100.000 l

Dimensions and weight

Height	133 cm
Width	64 cm
Depth	60 cm
Weight	100 kg

The throughput (l/min) depends on the salt content of the raw water. The higher the salt content, the lower the throughput. The service life of the filter cartridge depends on the contamination level of the raw water. Turbid materials, rust particles, organic contaminants, among others, shorten the service life of the filter membrane.

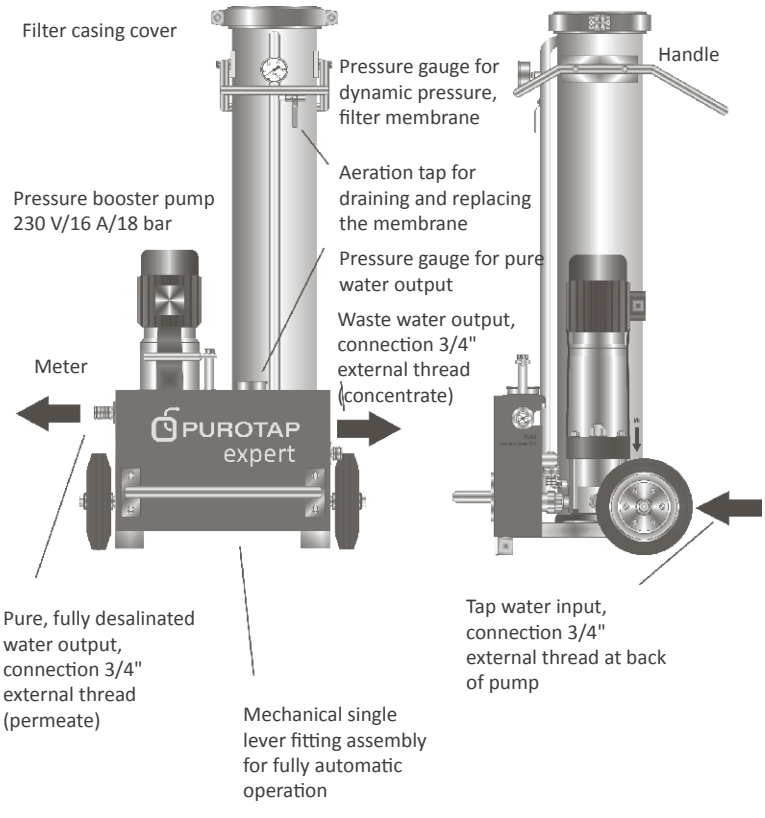
Not suitable for desalinating any other water sources except tap water from the drinking water supply.

PUROTAP® expert is suitable for large volumes of water, for example, to fill large systems. The hyper filtration device is distinguished by its high throughput and low operating. costs. A powerful mobile alternative to resin based demineralisation.

Cross-section of filter membrane. Filters the smallest nanoparticles from the water.

Five good reasons

- ☑ **no resin consumption**
- ☑ **easy implementation: plug & play**
- ☑ **fast: 20 litres per minute; up to 30 m³ per day**
- ☑ **lowest price per litre: up to 10 times more cost effective than resin**
- ☑ **highly productive: up to 100,000 litres**



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